

[0379] Attribute ID. Each column in the data source is used to affect an Attribute.

The Attribute ID column identifies this Attribute.

[0380] Column Name. Each data column is identified within the source by the name of the data column.

5 **[0381] Column Usage Type.** External data can be used to populate an Attribute, to validate the value of an Attribute, or for some other purpose. This column specifies how an external column is used during an import from a data source.

[0382] Data Source ID. Each data column is associated with a data source, which is identified by the Data Source ID.

10 **[0383] Transformation.** In some cases, the format of the data in the data source is different from that in the present system. For example, the division data in the legacy RCData file is alphabetic, and the code in the system database is numeric. The transformation column contains a formula that transforms a value from the external format to the internal, system format.

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The Map Data Dictionary

[0384] The map portion of the Data Dictionary describes the portion of the Data Dictionary that supports the meta-data necessary for maintaining and rendering maps.

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The Session Data

[0385] One feature that helps support data maintenance activities is session control, which tracks the user and software component that is responsible for each modification to data. This task is accomplished by associating a session to each data maintenance activity. For example, if a user begins uploading RCDData, a session is created to track the data changes that occur because of that activity. Each session tracks (a) the Attributes that a user may have revised during the session and (b) the Entities whose Attributes may have been modified. By cross-referencing the Attributes and Entities that may have been affected with the birth and end date information maintained for the historical archive, the specific data changes that occur during a session can be identified. In the rare instance that two or more users at the same time review the same Attributes of an Entity but make different changes, the user responsible for each change will not be identified, but will only identify that each user made changes. This session control information is stored in the Session Data.

[0386] Referring to Figure 19, there is shown the Session Data Tables: Components 1910, Session 1900, Session Entities 1920 and Session Attributes 1930, and relationships among them. The relationships between these tables are described below:

[0387] Session is performed by Components. Each session 1900 is related to a specific component 1910 that initiated that session and is responsible for the data maintenance activities that occurred during that session. This relationship identifies the component that initiated a session.

[0388] Session modifies Session Entities. Each session 1900 updates the data for a set of Entities 1920. This relationship identifies the Entities 1920 that were modified during a session 1900.

[0389] Session modifies Session Attributes. Each session 1900 involves the modification of certain Attributes 1930 of an Entity. This relationship identifies the Attributes that the user may have modified during a session.

[0390] The user is identified and the component responsible for each update to data by creating a session to track each data maintenance activity. The Session table 1900 stores information about each session.

[0391] Session ID ([Session_ID]). Each session is identified by a unique, numeric session ID, the Session ID

[0392] User ID ([User_ID]). Each session is associated with the data maintenance activities of a particular user. The User ID is the identifier for that user.

[0393] Component ID ([Component_ID]). Each session is associated with the data maintenance activities that are initiated by a particular software component. The component ID is the identifier for that component.

[0394] Start Time ([Start_Time]). Each session occurs during a fixed period of time. The start time is the date and time at which a session began.

[0395] End Time ([End_Time]). Each session occurs during a fixed period of time. The end time is the date and time at which a session ended.